ANIMAL PRODUCTION FOOD SAFETY STATE-BASED OUTREACH PARTNERSHIPS

Final Report - September 2000

TITLE: *Continuation*: Indiana Quality Plus Beef (IQ+BEEF) Initiative

GOAL: To create a cooperative, team-based system that will increase the safety, wholesomeness and uniformity of beef products for the consumer, while enhancing the profitability and sustainability of Indiana beef producers.

OVERALL IQ+BEEF OBJECTIVES:

1. To improve communication among the different segments of the beef industry. Commitment to span from the seedstock producer to harvest of beef product.
2. To educate producers about management practices that will ensure a safe, wholesome, quality beef product.
3. To eliminate unnecessary duplication of vaccinations and encourage proper management practices.
4. To improve ability to trace animals back through the production system for possible disease/pathogens situations by source verification.
5. To educate beef producers about: proper utilization, storage, and administration of animal health products; product withdrawals; and proper animal handling and care techniques.
6. To implement best management practices to prevent the excess use of anti-microbials and biologicals.
7. Evaluate the impact of the educational programs.

NARRATIVE OF WORK COMPLETED

The need for quality assurance and enhanced communication among beef industry segments was identified by the Purdue Beef Team and a proposal was prepared to address those issues. The Purdue Team membership includes Extension and production specialists from both the Department of Animal Sciences in the School of Agriculture and the Department of Veterinary Clinical Sciences in the School of Veterinary Medicine. This proposal was presented to representatives of the seedstock, commercial cow-calf, backgrounding and feedlot segments of the industry, as well as practicing veterinarians, Indiana Beef Cattle Association, Indiana Veterinary Medical Association, Commissioner of Agriculture, Indiana State Board of Animal Health, and livestock auction markets. Three meetings were held by this group which resulted in the formation of the Indiana Beef Team and the formalization of a new program called Indiana Quality Plus Beef (IQ+BEEF, *The Intelligent Choice*).

The new system has resulted in a paradigm shift from participating producers viewing themselves as animal producers to that of food producers. The statewide education network, collaborating with both partners and stakeholders, has utilized the resources made available through the first contract with FSIS, which

we will call Phase I, and has continued under the current FSIS contract, which we will call Phase II. In Phase I we begin training participants on how to contribute successfully to the new system. This educational effort included refinement of management practices and strategies that will optimize total system performance and maximize end-product quality and safety.

In Phase I a color promotional brochure was created that outlined in detail the advantages to the cow-calf producer, cattle feeder and consumer, as well as requirements to participate in the IQ+BEEF program. The centerpiece of the IQ+BEEF Initiative is the education and certification of Indiana veterinarians and beef producers in quality assurance. Educational materials and fact sheets were created to assist with base-level learning and decision-making in the coordinated system. Fact sheets were created and compiled into a three-ring IQ+BEEF Certified Beef Producers Manual and training overlays to help standardize the certification of producers and veterinarians across the state. The Purdue Beef Team was responsible for creating the “train-the-trainer” materials, session and certifying trainers on the Purdue campus. (Please refer to 1999 Final Report to FSIS for copies of these materials, if interested.) At least one veterinarian and one Extension educator from each of eight regions around the state were identified and certified as “trainers” to conduct additional training sessions and to certify producers in quality assurance issues across the state. Training utilized the newly created training manual and overlays, along with the educational displays on quality assurance leased from the Pennsylvania Cattlemen's Association. On July 1, 1999 the program certified 53 IQ+BEEF Trainers consisting of veterinarians, Extension educators, and industry professionals.

To date, a total of 14 formal IQ+BEEF certification training sessions (10 in Phase II), numerous small sessions conducted by trainers around the state for local clientele, and an IHETS (Indiana Higher Education Telecommunication System) satellite program broadcast statewide have been conducted. A video tape was made during the IHETS program is now being utilized by producers in a home-study format along with the Certified Beef Producer Manual. A web-based educational module is currently being developed for distance learning that includes the option of certification examination on-line. To date, a total of 402 beef producers (355 in Phase II) and 70 veterinarians (27 in Phase II) have met the requirements and have become IQ+BEEF Certified. A web site containing IQ+BEEF background information; program requirements; certified trainer, producer, and veterinary names; sale dates, etc., has been created and is maintained on the Department of Animal Sciences' server (http://www.ansc.purdue.edu/IQBEEF/home_page.htm).

A total of 3500 uniquely numbered IQ+BEEF tags were sold to Certified Veterinarians prior to December 31, 1999. A total of 3200 additional tags have been sold to date this year (total = 6700 since July 1, 1999). A survey of certified producers and veterinarians is currently being conducted to identify how many calves have actually been processed, problems encountered, health and

performance information, how calves were marketed, and perceived or real premiums received at the time of sale.

A unique aspect of the IQ+BEEF program is the shared responsibility for the program's success between the producer and his/her local veterinarian. When the producer is certified, the veterinarian knows that all injections and procedures will be performed correctly on the cattle. The Certified Veterinarian is responsible for oversight of the producers' procedures, certifying that all procedures have been performed, and that each animal has met the requirements of the program. Qualifying animals are then tagged with a uniquely numbered IQ+BEEF tag. Tags are ordered and distributed by the Indiana Veterinary Medical Association to only Certified Veterinarians. The veterinarian and producer each sign a multiple, five-copy certificate stating that the cattle meet or exceed all requirements established for the IQ+BEEF program. This certification and verification program has been well received by producers purchasing IQ+BEEF Certified calves for backgrounding and feedlot operations. This is reflected in the bids and sale transactions made on these calves (discussed below).

ROLE OF PARTNERS

Purdue University: Beef cattle specialists in the Department of Animal Sciences and the School of Veterinary Medicine constitute the Purdue Beef Team and were responsible for development, compiling and printing of the educational fact sheets, training manuals, and training overlays, as well as certification of trainers for the program. Three Quality Assurance educational displays were leased from the Pennsylvania Cattlemen's Association in Phase I and used around the state. During Phase II, three educational displays were designed (two completed, third near completion) that will replace the leased displays. To date, these displays have been utilized at several workshops in Indiana, the Indiana Beef Cattle Convention, and were loaned to the Illinois Cattlemen's Association for display at the Illinois Beef Expo. Over 25,000 producers have been exposed to these displays since the first one was completed in the Spring of 2000. A bumper hitch, enclosed trailer and hitches have been purchased and will be used to protect and transport the displays to workshops, training sessions, expositions, and shows in the region. A contractor has completed the addition of the roller track and the interior of the trailer that will facilitate loading and unloading, as well as protect the displays during transport. A few finishing touches are being made to the display to keep current with the industry. The displays will continue to be updated as needed for different events and educational opportunities. The displays are schedules for four different events in the first three months of the new calendar year, in addition to the 2001 Farm Progress Show to be held in Indiana.

Indiana Beef Cattle Association: The IBCA has played an active role in assisting with the education and training necessary for the certification program delivery, as well as leveraging resources to facilitate the exchange of information. The IBCA has served as a partner by co-sponsoring producer meetings, providing opportunities to present summaries and updates at meetings and providing

grassroots involvement in the operation and leadership of the IQ+BEEF program. Articles and promotion of the program have been included in the Indiana Beef magazine. Additionally, IBCA has been instrumental in designing (Phase I) and mailing (Phases I and II) certificates and farm gate signs for Certified Producers and Veterinarians, as well as auction market posters. Furthermore, producer certification training sessions were conducted at the IBCA-sponsored Hoosier Beef Congress in December 1999 and the Indiana Beef Cattle Convention in February 2000.

Indiana State Board of Animal Health: Indiana BOAH has assisted with the development and implementation of the program by adding expertise to fact sheets for the training manuals, creation of certification guidelines for producers, and validating accuracy of items dealing with state laws.

Indiana State Department of Health: ISDH has helped by providing support for the program and increasing awareness of the efforts set forth by the beef producers.

Indiana Veterinary Medical Association: The IVMA has provided support staff to order, maintain inventory, and distribute IQ+BEEF tags to IQ+BEEF Certified Veterinarians. IVMA has taken responsibility for making sure veterinarians comply with program requirements and the annual renewal (or denial) of Veterinary Certification.

Marketing Organizations: Livestock auction markets have provided services that assist with product flow into feedlots and the processor.They have assisted in the promotion of the program through special IQ+BEEF sales that have taken place this past fall and winter. Results of these sales (numbers of cattle, weights, price received, health status in the feedyard, etc.) are currently being collected by survey of producers and veterinarians. Nine IQ+BEEF sales were scheduled for the fall of 2000. Interestingly, two of these sales are outside the border of Indiana (Milford, IL and Eaton, OH).

Stakeholders: Beef producers (n=402) have participated in the educational programs and certification training sessions offered in various locations throughout the state. Additionally, stakeholders have agreed to implement and utilize the IQ+BEEF protocols for identification, health, quality assurance and management practices, as well as share information with other beef producers and segments of the industry. We have complete data on two of the largest special sales held to date and the results indicate that IQ+BEEF Certified calves sold for a $4.45/cwt premium to non-certified calves of the same class and weight. We also have complete performance data from several producers during the 30+ day post-weaning period required by the program. Data indicate that calves gained 1.48 to over 2.50 pounds per day. This post-weaning gain added 45-75 pounds to sale weights and collectively netted producers over $30 per head profit. One interesting comment from a producer who attended a special

sale was that he thought the sale was cancelled when he arrived because they did not hear any bawling calves. One benefit of this program has been that IQ+BEEF Certified calves appear to undergo less stress in the livestock market facility than their freshly weaned counterparts.

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TITLE: Across Indiana for Food Safety 1999-2000

GOAL: To teach Indiana's poultry producers and processors how to incorporate production practices into their operations to produce a safer meat and egg supply, while building consumer confidence in the industry.

OBJECTIVES:

1. Train a multi-faceted team of poultry professionals to incorporate HACCP principles in the industry's production and processing segments.
2. Educate producers and processors about disease control and food safety through regional schools.
3. Meet with Indiana's poultry-producing community to educate them on HACCP and HACCP-like programs using United Egg Producers, 5-Star Program and other models. The project will include all producers, but a greater effort will focus on smaller operations.
4. Create a diverse team of poultry professionals who can serve as consulting resources about HACCP production principles.

BACKGROUND:

Indiana's poultry industry represents a diverse group of producers. The state currently ranks at or near the top nationally in a number of poultry categories: Number 1 in duck and egg-type breeders; number 4 in egg production; number 7 in turkey production; and number 14 in broiler production. Production in Indiana varies in size from the largest to the small family farms. To continue this high degree of success, producers must maintain the highest standards in safe food production.

Previous experience with programs in the poultry industry has shown that flock owners and managers are highly competitive, and very secretive about their individual production practices. Consequently, group meetings with all the key producers gathered in one room are rarely successful. Flock owners are not comfortable asking detailed questions or seeking out more information in group environments, where competitors may learn about their operations. To accommodate the unique needs of these diverse producers this project will first include Regional Disease Control and Food Safety Schools.

Following the regional schools, the Indiana Poultry Industry Project provides for on-site training and education. In an individual setting, many flock owners and managers are more comfortable asking the essential questions and discussing openly their specific situations to make HACCP work in their poultry operations.

PROGRAM DESCRIPTION:

HACCP outlines seven critical points for safer food production. Dr. Rich Linton, professor of food science at Purdue University, designed and conducted a training workshop, based on HACCP principles. Key influencers in the poultry industry, including Cooperative Extension specialists, Indiana State Board of Animal Health veterinarians, Indiana's meat and poultry veterinary inspectors, Indiana's Egg Board inspection staff members and Indiana State Poultry Association members participated in this workshop, which served as the basis for an on-going producer education program.

Following the workshop, a core team of poultry industry specialists, representing regulatory, veterinary, and industry interests, presented the HACCP Program to over 200 producers in 4 regional schools and at 17 on-site educational meetings. The focus of each meeting was to present producers with the newly designed modules of HACCP so they could incorporate these principles and other elements of quality assurance into their operations.

Members of the Indiana Poultry Team, who are trusted within the industry, are seen as resources for animal health and production information. Covering the entire state and involving over 100 small producers and processors, the four regional schools were held throughout Indiana. Furthermore, conducting the 17 on-site sessions provided an opportunity for open discussion about specific practices, as well as allowing for applied, hands-on tours of facilities to analyze the strengths and weaknesses of an operation.

The Poultry Team's program was well received, as the producers recognized the value and long-term benefits of the HACCP principles. All operations participating in this project will be using the provided materials and are enrolled in a quality assurance program.

Team members presented a manual comprised of overheads, articles, publications, and presentations at the regional schools and to key personnel in each operation. The *On-Farm Food Safety for Poultry and Egg Products Manual* (copy enclosed) included:

- *Overheads for On-Farm Food Safety for Poultry and Egg Products,* Dr. Richard Linton;
- *Poultry Facility Biosecurity,* John B. Carey, J Fred Prochaska, and Joan S. Jeffrey;
- *Ingredient Sampling and Analysis: Why and How,* NCSU Extension Service;
- *Feeding Ducks,* NCSU Extension Service;
- *Understanding and Coping with Effects of Mycotoxins in Livestock Feed and Forage,* NCSU Extension Service;
- *Drinking Water Quality for Poultry,* NCSU Extension Service;
- *Clean Water and Broiler Performance,* University of Georgia Extension Service;
- *Sampling for Bacteria in Wells,* Texas A & M Extension Service;

- *Storing and Handling Broiler and Turkey Litter,* Virgina Tech. Extension Service;
- *Components of a Complete Manure Management Plan,* NCSU Extension Service;
- *Poultry Pest Management,* Texas A & M Extension Service;
- *Pest Control on Poultry Farms,* Texas A & M Extension Service;
- *Small Poultry Flocks,* USDA Farmers Bulletin
- *Small Poultry Flocks,* NCSU Extension Service;
- *The Home Broiler Flock,* Texas A & M Extension Service;
- *The Small Laying Flock,* Texas A & M Extension Service;
- *HACCP Principles,* NCSU Extension Service;
- *Designing a HACCP Plan for Shell Egg Processing Plants,* NCSU Extension Service;
- *Generic HACCP Model for Poultry Slaughter,* International Meat and Poultry HACCP Alliance;
- *Listeria Guidelines for Industry,* FSIS Food Safety Education Staff;
- *Egg Quality Assurance on the Farm,* University of Georgia Extension Service;
- *Spray Sanitzing Hatching Eggs,* NCSU Extension Service;
- *Dead Poultry Disposal,* Texas A & M Extension Service;

In addition to the above texts the Food Safety Modular Program, *It's in Your Hands!* (copy enclosed) was presented. This curriculum was made available to producers in both English and Spanish formats and visuals were made available as color slides, color overheads, and Microsoft PowerPoint files on CD-ROM. Furthermore, all files are available on the web at http://www.foodsci.purdue.edu.

To extend the Team's efforts in the future from this established base we propose to:

1. Continue training the core team of poultry professionals to incorporate HACCP principles in the industry's production and processing segments.
2. Continue to educate producers and processors about disease control and food safety through regional schools.
3. Continue to meet with Indiana's poultry-producing community to educate them on HACCP and HACCP-like programs using *It's on Your Hands!* type modules and other programs.
4. Expand Indiana's diverse team of poultry professionals who can serve as consulting resources about HACCP production principles.

Attachment: *On Farm Food Safety for Poultry and Egg Products, 2000 Manual*
It's in Your Hands!, a food safety modular program

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TITLE: Integrated Food Safety Training for Indiana Dairy Producers

GOAL: To educate dairy producers about the importance of proactive adoption of HACCP principles in ensure a safe, wholesome supply of dairy and dairy beef products.

OBJECTIVES:
After the program dairy producers will

1. have a familiarity with available programs based on HACCP principles to monitor food safety at the dairy farm;
2. adopt the 10-Point Milk and Dairy Beef Antibiotic Residue Avoidance Protocol;
3. be familiar with the Johne's Disease Program of the Indiana State Board of Animal Health, as a model for pathogen control;
4. understand the importance of maintaining individual animal identification and detailed, up-to-date records; and
5. appreciate the importance of being proactive in maintaining milk safety.

PROGRAM DESCRIPTION:
A series of milk quality schools was delivered through the joint efforts of Purdue University Cooperative Extension, Indiana State Board of Animal Health, individual dairy producers and the four Dairy Equipment Dealers with businesses in Indiana. Dairy Cooperatives in Indiana also played a major role in delivery of information about milk quality. Schools were conducted on dairy operations to allow hands-on demonstrations and education. (Dates of the Milk Quality Schools are listed in Attachment A, which is the flier used to promote the Schools. Attachment B is the press release used for promotion.)

Additionally, recognizing the increasing number of Indiana Dairy Farms relying on a Latino workforce for the day-to-day milking tasks, translation to Spanish was provided for presentations at three locations (details in Attachment A and B).

Each training program (agenda enclosed as Attachment C) addressed milking procedures and hygiene, mastitis and antibiotic use, hands-on demonstration of techniques to ensure milk quality, antibiotic residue avoidance, monitoring milk quality, milking equipment sanitation, and a tour of the farm facilities. Special emphasis was given to helping attendees understand why every aspect of milking procedures and mastitis management relates to consistent production of high-quality milk that is safe and wholesome for consumers. Following completion of the course, participants received Certificate of Completion (Attachment D).

Materials distributed included in a proceedings of the schools, and *the Milk and Dairy Beef Residue Prevention Protocol*. (Hard copies are attached. Electronic copy is enclosed on the diskettes.)

The Table below lists attendance at each of the Schools:

Date	Milkers and Producers	Dairy Industry Professionals
September 11	15	12
September 14	3	15
September 15	9	11
September 18	7	11
September 19	6	7
September 21	9	7
September 22	4	9
Total	53	72

Turnout from the dairy farms did not represent a large portion of the dairy farms in each geographic region. Nevertheless, in most cases, attendees represented the largest farms in the counties in which the schools were hosted. Estimates indicate the family farms reached represented some 4,000 cows and the production of some 80 million lbs. of milk or 9.6 million gallons per year.

Consideration of the impact to the Indiana dairy industry would be vastly underestimated if only the dairy farm attendees were considered. Industry professionals in attendance are expected to reach virtually every dairy farm in Indiana over the course of a year. Certainly, information provided to these professionals will be disseminated to dairy farms throughout the state. Techniques described in the milking schools will be especially useful for the small percentage of dairy farms that may be selling milk of uncertain quality. Dairy industry professionals are routinely called upon to help such herds achieve and maintain improvement in the quality of milk they sell. The program has raised awareness and resulted in requests for additional information and programming in the areas of milk quality and mastitis management.

A secondary objective of this project was the development of distance learning modules related to milk quality. Further funding for development of these modules has been obtained from the Purdue University Cooperative Extension Service and from the Maplehurst Foundation. Sections on Milking Procedures, Mastitis Management and the Physiology of the Cow are nearly complete. Sections on Equipment and Sanitation are under development. Participants in this program will complete pre-tests, as well as self evaluation tests upon completion of individual sections. Completed sections should be distributed for review in January 2001, and the final certification program will be available by early Spring for presentation at the Indiana Milk Quality Conference in April 2001.

Perhaps one of the largest impacts of the funding from FSIS for the Integrated Food Safety Training for Indiana Dairy Producers has been the strengthening of a team approach to addressing milk quality issues in Indiana. Numerous efforts have resulted directly from the strengthening of relationships between Purdue University; BOAH administration, farm inspectors, and veterinarians, and representatives of allied industry. Among the results are the Indiana Milk Quality Conference (first held in 2000 and with plans for April 2001), a value-added milk quality project to promote improved milk quality among the states expanding or establishing dairy farms, and enhanced educational opportunities for senior veterinary students at Purdue University.

Attachment A—Promotional Flier
Attachment B—Press Release
Attachment C—Agenda
Attachment D—Certificate of Completion
Attachment E—*Indiana AgriNews* Report
Attachment F—*Herald Argus* Report

Enclosure 1 –- Proceedings
Enclosure 2 -- *Milk and Dairy Beef Residue Prevention Protocol*
Enclosure 3—Diskette with presentations